

NCEA  
1997

$$T = 0.035 \text{ ms}$$

$$= 0.000035 \text{ s}$$

$$V = 3.00 \times 10^8$$

$$f = \frac{1}{T} = \frac{1}{0.000035} = 28571.428$$
$$= 2.86 \times 10^4 \text{ Hz}$$

(3 s.f.)

$$V = f\lambda$$

$$\therefore \lambda = \frac{V}{f} = \frac{3 \times 10^8}{28571.428} = 10500$$
$$= 1.05 \times 10^4 \text{ m}$$

The wave moves  $1.05 \times 10^4 \text{ m}$  in one period.

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2010

$$V = f\lambda$$

"f = same!"

$$\therefore f = \frac{V}{\lambda} = \frac{4.5}{0.124} = 36.3 \text{ Hz}$$

$$V = f\lambda = 36.3 \times 0.086 = 3.12 \text{ ms}^{-1}$$

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2011

$$f = 4.80 \times 10^5 \text{ kHz}$$

$$= 4.80 \times 10^8 \text{ Hz}$$

$$V = 3.0 \times 10^8 \text{ ms}^{-1}$$

$$V = f\lambda$$

$$\therefore \lambda = \frac{V}{f} = \frac{3.0 \times 10^8}{4.80 \times 10^8} = 0.21 \text{ m (2 s.f.)}$$